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THE RAILWAY CLUB LIBRARY.

VOLUME II.

Preston and Carlisle Express Services, 1900-1

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THE RAILWAY CLUB.

(FOUNDED, 1899).

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The chief objects of the Club are:—

1.—To facilitate the acquirement and interchange of information concerning all branches of railway life.

2.—To arrange for the collection and preservation of documents, books, records, maps, plans, photographs, &c. relating to the history and working of railways in general.

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(Continued on third page of Cover).

THE RAILWAY CLUB LIBRARY

VOLUME II.

PRESTON AND CARLISLE
EXPRESS SERVICES, 1900-1

BY

R. E. CHARLEWOOD.

London:
THE RAILWAY CLUB.
1901.

This paper originally appeared in September, 1900, as No. 18 of the Circulating series, and was then entitled SUMMER SERVICES ON LANCASTER-CARLISLE SECTION, 1900. *Since then it has been largely amplified and re-written by Mr. Charlewood, and now forms No. 2 of the "RAILWAY CLUB LIBRARY."*

G. W. J. POTTER.

November, 1901.

PRESTON AND CARLISLE EXPRESS SERVICES, 1900-01.

I BELIEVE there are few stretches of railway more widely known, and certainly there are none that better repay a careful study, than that section of the London and North Western which extends from Preston to Carlisle. The distance in question is 90 miles. Of these, 21 miles consist of what was originally the Preston and Lancaster Railway—and is still alluded to locally as the "old line"—and the remaining 69 miles are the Lancaster and Carlisle line proper. There are two most important branches on the section, those to Morecambe and Windermere; and less important ones to Glasson Dock and Ingleton. The latter is however interesting to students of railway history as having formed the Midland's route to Scotland, previous to the opening of the Settle and Carlisle line. From Penrith there branches off the Cockermouth, Keswick, and Penrith railway, which finally forms a junction with the Furness system.

It is in a great measure on account of its gradients that the Lancaster-Carlisle line is so familiar to railway enthusiasts, and I propose to sketch very briefly what these gradients are.

From Preston to Carnforth, 27¼ miles, there are no difficulties to contend with, and the line is easy, except for one mile at 1 in 95 into Lancaster station, but of this little advantage can be taken, owing to the severe curve. After Carnforth comes a short rise almost to Burton station, 2¼ miles at 1 in 131 and ¼ at 1 in 556, and then, after 3 miles virtually level, begins the long climb of 13¼ miles to Grayrigg. The gradient varies from 1 in 144 to 1 in 105: through Oxenholme station it is 1 in 183.

After the Grayrigg summit is reached, the line is on easy gradients—with a downhill tendency—to the 31st mile post from Lancaster; then comes a rise of 1 in 147 for 1¾ miles through Tebay, and lastly the famous four miles of 1 in 75, to Shap summit. The 31¼ miles thence to Carlisle are almost entirely downhill, only broken by a short rise at 1 in 477 north of Penrith—and there are long stretches of 1 in 125 and 1 in 133. The descent continues to Carlisle platform.

The first 23 miles from Preston—one might almost say the first 40 to Oxenholme—are extremely crowded with traffic, and the widening out of Preston—which at present progresses slowly—is earnestly required. The rebuilding of Lancaster station will probably make the work of dealing with the vast Morecambe excursion traffic easier. It will be readily seen that to cover these 90 miles in 103 minutes on the down and 102 on the up journey is no light task, but the engines are quite capable of doing it. It seems unfortunate that the compilation of the working time table, which to the outsider appears to take little note of the natural difficulties of the line, makes it impossible for the trains to adhere to their point to point timings. But the few minutes lost in running uphill can always be gained with ease before the end of the run, without any excessive speed being necessary: and there has during

1901, been a great improvement in the time-keeping up the banks. Absolute punctuality is an ideal which can never be reached in practice, but the time-keeping of trains has certainly deteriorated lately in the Lancaster-Carlisle district. Overcrowding is unhappily an almost daily occurence on certain trains in the summer months, while on others the accommodation is almost always far in excess of the requirements of the traffic; and lastly, I mention it more for the justification of the locomotive department than the condemnation of the platform staff, in the trains that do road-side work on the section, all the time lost on a run—and often any subsequently regained by the locomotive—is lost in the stations, where the time booked for stops is invariably exceeded. Engines are too often loaded beyond their power: the result is delay and, on a crowded line, disorganization. When trains are divided, a more economical "make up" would too often have obviated the necessity for a second portion, and an extra engine is used practically to draw empty carriages. It is surely false economy to cut down the number of men available in each department to the lowest possible number: it is in other quarters that there is room for real economy.

In the actual service of trains during 1900 and 1901, there is little of interest to record. The much talked of Race to the North in July, 1901, never existed outside the columns of the *Daily Mail* and similar journals: and the division from July 4th of the 10 a.m. from Euston—which certainly would have made racing possible—was due rather to the increase in the Glasgow raffic than to any desire for an early arrival in Edinburgh.

No changes have taken place in 1901 in the night Scotch trains. The 'Grouse week' traffic was as heavy as usual, and the 8 p.m. from Euston was relieved by a 7.45 p.m. for Perth and the Highlands, and an 8.10 p.m. for Carlisle and Stranraer. The ordinary 10.45 p.m. from Glasgow proved, towards the end of August, too heavy to run with the Edinburgh portion, and a special train was run regularly from Glasgow at 10.35 p.m. for Euston. The up night trains are as a rule poor time-keepers, those from north of Stirling suffering severely from the difficulty of getting through Perth station.

To turn to the day Scotch trains in 1901. The 5.15 a.m. from Euston is always divided in summer, the London and Liverpool coaches running direct from Wigan to Penrith at 10.30 a.m., while a separate train follows at 11.5 a.m. from Preston formed of vehicles from Manchester (L. & N.W.) and the Lancashire and Yorkshire line for Perth, Edinburgh, and Glasgow. It is by far the heavier train of the two. The London train has, in 1901, been accelerated 3 minutes north of Wigan, and only 105 minutes are allowed for the 87¼ miles thence to Penrith. The train is often worked by a three cylinder compound of the 'John Hick' class, and with the average load of 12 or 13 coaches, no pilot is taken. But the train seldom keeps time to Penrith.

Next in order comes the 7.10 a.m. from Euston—12.38 p.m. from Preston—locally known as the mail. It has a lot of road-side work to do on the Lancaster-Carlisle section: is usually heavy, and is one of the worst time-keepers on the road. It was one of the first trains to be worked by a four-cylinder compound engine.

The first acceleration of the 10 a.m. from Euston took place in December, 1900, when the train was timed to reach Carlisle at 4.1 p.m.—with 2 hours 46 minutes allowed for the run of 141 miles from Crewe. On the same date the 11.25 a.m. from Birmingham was altered to follow the London train from Preston to Carlisle, and 110 instead of 105 minutes were allowed for the 90 miles between those points. But on July 1st, 1901, the train left Birmingham at 11.20 a.m., and Preston at 1.55 p.m. running to Carlisle in the fine time of 103 minutes, and once more preceding the 10 a.m. from Euston. The Birmingham train had an average load of 16 coaches, and was worked usually by two 6ft. four-coupled engines. During July and August, the Perth vehicles from Euston formed a separate train, leaving at 10.5 a.m., (subsequently 10.10) and reaching Carlisle 4.24 p.m. This train in 1901 called at Stafford and Wigan, instead of Crewe—as formerly—and was run by a four-cylinder compound. For the greater part of July and August, the 10 a.m. from Euston was further divided into 10 (Edinburgh) and 10.5 (Glasgow) —the various alterations in the booked times being too numerous to specify here.

The remaining Scotch trains may be shortly dealt with. The 11.30 a.m. from Euston both in 1900 and 1901, conveyed carriages for the Furness line, Windermere, and Keswick: but by stopping to detach all these at Carnforth, the load was made very light on the heavier part of the road In 1901 the train has been worked by a Carlisle engine, often a four-cylinder compound—the same engine leaving Carlisle for Crewe at 8.30 a.m.

The 2 p.m. Corridor train from Euston, is unaltered. North of Crewe it is worked by two 6ft.

6in. four-coupled engines—Nos. 883 and 1484 have often been on the train in 1901—and these keep splendid time, nearly always gaining a little on the 106 minutes run from Preston to Carlisle. The vehicles from Euston to Aberdeen, together with those from Liverpool and Manchester for Edinburgh and Glasgow, form the "second corridor," 6.45 p.m. from Preston. The latter is a hard timed and heavy train, and yet, at the end of August, 1901, when one of the new four-cylinder compounds was put on the train, an attempt was made to dispense with the usual pilot from Preston to Carlisle.

Except for the famous 1.55 p.m. from Carlisle, the up Scotch trains are uninteresting. This particular train, although not heavy, is one of the hardest run on the line, and I fear it very seldom keeps its time from Penrith to Crewe. In 1901 it has been worked often by a four-cylinder compound: in 1900 it was usually a 6ft. 6in. coupled engine. The train attaches vehicles from Keswick at Penrith, and the load then averages 12 or 13 vehicles.

Since July, 1901, the 12.40 a.m. from Carlisle (Glasgow and Edinburgh to Liverpool and Manchester) has no longer retained its 102 minutes run from Carlisle to Preston. By the new timing, a stop at Penrith was inserted, and five minutes extra were allowed. The train is very heavy in summer, and in 1901 the engines were usually a 6ft. and 6ft. 6in. four-coupled. Thanks to Caledonian unpunctuality, the train under its new timing was seldom less than 20 minutes late out of Carlisle.

From the same date, the 12.58 p.m. Perth express from Carlisle, has been worked by Carlisle engines and has been allowed 107 minutes to run to Preston.

From October, 1900, to June, 1901, it was a very light train, and was booked from Penrith (where it stopped) to Preston, in the remarkable time of 79 minutes. This run was made as a rule by a four-cylinder compound.

The up corridor trains—4.12 p.m. and 4.22 p.m. from Carlisle—are not at all hard-timed to Preston. The 4.12 is worked by the Crewe engine that brings the newspaper train in the morning—until recently a 'John Hick' was nearly always employed—the 4.22, a tremendously heavy train, has a Carlisle 6ft. 6in. coupled, (returning from Crewe at 2.56 a.m.) assisted by the Preston engine that works the 8.10 a.m. slow train from Preston to Carlisle. During the press of the traffic in 1901, the Glasgow portion for Euston was run specially, in advance of the ordinary train, leaving Carlisle 4.5 p.m. and not stopping until Crewe. This train was usually worked by one of the four-cylinder compounds stationed at Carlisle. It was not a very satisfactory arrangement, for the line was too crowded after Carnforth to ensure punctuality.

The up 'limited' 8.42 p.m.—from Carlisle—is an unpunctual train as a rule, and very often divided. It sometimes gives a good run to Carnforth. The up postal—9.22 p.m. from Carlisle—is worked by a Crewe four-cylinder compound, (it comes down at 12.38 noon from Preston), but is an easy timed train in comparison to the down postal—which is only allowed 29 minutes from Preston to Carnforth and 70 minutes from Carnforth to Carlisle: 90 miles are thus to be covered in 103 minutes, including a stop for 4 minutes.

The up night trains need no special mention. They were unaltered in 1901, except that frequent division was necessary owing to the heavy Glasgow traffic.

With regard to the Windermere and Keswick services—the other important division of trains in the Lancaster-Carlisle district—the arrangements of 1900 were in the main adhered to during 1901. But the up morning through train from Windermere to Euston left Windermere in 1901 at 10.25 a.m., instead of 11.20 a.m. as in 1900: while the 9.10 a.m. from Windermere, which formerly served as a relief to the 8.30 a.m. from Carlisle, was discontinued. But this was balanced by the continuance of the 11.45 a.m. from Windermere —which was previously only run during winter—as a Manchester train. The 10.25 a.m. from Windermere has been a very heavy train, and was often divided at Oxenholme, where a Keswick portion was attached. It was worked by a 6ft. 6in. coupled engine, and more time should have been allowed after Lancaster. The down Lake district trains in 1901 were precisely similar to the previous year. The 10.25 a.m. from Euston, which runs without stopping from Stafford to Lancaster, was worked by a four-cylinder compound, which kept far better time with the train than the smaller engines did in 1900. The 11.30 from Euston I have already mentioned: both it and the 10.25 convey Keswick vehicles, which are run forward separately from Oxenholme to Penrith.

As is usual during the summer, the Windermere to Manchester traffic was heavy in 1901. The trains are mostly worked by 6ft. four-coupled engines. The six passenger engines stationed at Oxenholme, (Nos. 35, 468, 628, 634, 829 and 1164) do a very large share of the work, and their performances are excellent. The 8.30 a.m. from Windermere is the Manchester

"Business" train. It was worked in 1901 by 1164, *Odin*, but the train was heavier than in 1900, and the engine had hard work to keep time, especially on the 47 minutes run from Lancaster to Wigan. The corresponding train, 5.2 p.m. from Manchester, is also heavy to Lancaster, where it detaches a Morecambe portion. It would be unreasonable to expect any very fast timings in this service: stops are frequent and trains too heavy to make any great speed practicable. But for a 6ft. coupled engine to take 12 to 14 vehicles from Preston to Lancaster in 25 minutes, is, I think good work; and with the up trains smart running is made from Oxenholme to Carnforth. I have, on many occasions known the 12⅞ miles between those points, covered by the Oxenholme engines in 13 to 14 minutes, stop to stop: and once I timed 628 *Tartarus*, with the 8 a.m. from Windermere and a load of 220 tons at 75 miles per hour for 2¼ miles; 12 minutes 50 seconds being occupied from Oxenholme to Carnforth.

On the Morecambe services—apart from the L. & Y. trains—the L. & N.W.R. use their 18in. cylinder goods engines—the 'Cauliflowers'—very frequently: one or two 5ft. 6in. side tanks work the faster trains, but the 4ft. 6in. tanks are mostly confined to work on the branches. The Vacuum D.X. class also do good work when required, and owing to the scarcity of passenger engines at the various stations on the section, they have to be used more often than is really desirable on fast trains. The 18in. goods engines have had one remarkably fast train to work in 1901, the 9.42 a.m. (Mondays, Wednesdays and Saturdays only) from Preston to Windermere. The load is about 12, and the time allowed to pass Oxenholme from Preston (40 miles) is only 48 minutes. On one occasion 420 (a Wigan

'Cauliflower') with this train passed Carnforth (27¼ miles) in 30 minutes, and Oxenholme in 46 minutes from the Preston start. The 6.55 p.m. from Preston to Morecambe is always worked by a D.X. engine, and I have timed 3453 (stationed at Oxenholme) over the 21 miles from Preston to Lancaster in 24¾ minutes, start to stop, with loads of 9½ or 10. I believe that this engine has made the run over the old line in 24 and even 23½ minutes, but I have never actually observed this myself.

The usual engines employed to work the trains which serve the roadside stations on the Lancaster-Carlisle section are of the 6ft. and 6ft. 6in. coupled type, stationed either at Carlisle, Oxenholme, or Preston. A few Patricroft engines work to Windermere, but their performances are never brilliant. With the Preston, Carlisle, and especially the Oxenholme engines I have often noted exceptionally good work. It would be waste of space to include detailed logs of the various runs, but I propose to mention briefly some of the best performances.

The minimum load of the 8 a.m. from Windermere to Preston is 16½ coaches, or about 200 tons. Unless this load is increased on the journey, or the weather is exceptionally bad, one 6ft. takes the train unaided from Oxenholme. Time is scarcely ever lost, although only 15 minutes are allowed for the 12⅞ miles from Oxenholme to Carnforth, and 23 minutes from Galgate to Preston (16½ miles). The train is of course always assisted up the banks of 1 in 70 and 1 in 80 between Windermere and Oxenholme.

I have myself observed 6ft. engines run from Preston to Lancaster, start to stop, in the following times:—

Engine.	Time.		Load.
	Min.	Sec.	
486 *Skiddaw*	23	18	120 tons.
486 *Skiddaw*	23	35	115 „
738 *Terrier*	24	35	145 „
634 *Ellesmere*	23	40	160 „
634 *Ellesmere*	25	10	215 „
468 *Wildfire*	24	50	190 „
628 *Tartarus*	25	0	195 „

Two trains—worked by Oxenholme 6ft. engines—have been timed in the summer of 1901 to run the 15 miles from Carnforth to Kendal in 20 minutes, start to stop. The road is heavy to Oxenholme, and a slack to 10 m.p.h. is necessary at the north end of that station, where the Windermere branch leaves the main line. I have timed the run in question in 20 minutes 15 seconds (engine 634 and 100 tons), 18 minutes 50 seconds (628 and 120 tons), 20 minutes 15 seconds (468 and 185 tons), 20 minutes 30 seconds (634 and 170 tons), and 21 minutes 15 seconds, (634 and 205 tons). It will be allowed that these are performances of no mean order.

On one occasion, with the 5.55 p.m. from Carlisle to Lancaster, and a load of 18½ or 250 tons, two Preston 6ft. engines (735 *Charon* and 794 *Woodlark*) made up no less than 9¾ minutes, running from Tebay to Oxenholme—13⅛ miles—in 14 minutes 58 seconds, and Oxenholme to Carnforth—12⅞ miles—in 13 minutes 35 seconds, both runs being from start to stop. A speed of 81 m.p.h. was attained down Shap, and 74 m.p.h. passing Milnthorpe. The above is the only occasion on which I have known two 6ft. engines exceed 80 m.p.h.

I do not wish to convey the impression that all the best performances are with 6ft. and not 6ft. 6in. engines. The latter indeed do equally good work, though the 6ft.'s naturally have the advantage on the uphill sections, and are more frequently employed. But I recollect 749 *Mercury* (a Preston 6ft. 6in.) passing Grayrigg Summit from a stop at Oxenholme in 12¼ minutes, with a load of 140 tons, and 478 *Commodore* (a Carlisle 6ft. 6in.) taking 240 tons from Preston to Lancaster in 27¼ minutes, and 165 tons from Carnforth to Oxenholme in 18 minutes. Of uphill work with the 6ft.'s, fair specimens will be found in the table of runs with the 1.55 p.m. from Preston to Carlisle: but I would also mention here two runs with the 11.37 p.m. from Preston, where the 90 miles to Carlisle were covered by 794 *Woodlark* with 120 tons in 104¾ minutes, and by 731 *Croxteth* (6ft.) with 125 tons in 103¼ minutes. In the latter case, Shap Summit (58¾ miles) was passed in 68 minutes 35 seconds from the Preston start, and the subsequent descent was run very easily to avoid too early an arrival at Carlisle.

A few trains which have roadside work to do on the Lancaster-Carlisle section are worked by Crewe four-cylinder compounds, notably the 12.38 p.m. from Preston down, and the 2.5 p.m. from Carlisle up (1.40 p.m. in winter). The loads are heavy, especially in the former case, and I have seldom found any remarkable work done. On one occasion, 1922 *Intrepid* with the 12.38 p.m. from Preston, ran from Shap Summit to Penrith in 14¼ minutes (13½ miles), and Penrith to Carlisle in 19½ minutes (17¾ miles) with a load of 190 tons; and I have timed 1942 *King Edward VII.* from Preston to Lancaster with that train and a load of 205 tons in 25 minutes. But time is far more often lost than gained, and it was extremely disappointing to see how frequently the four-cylinder's used to take assistance up the banks with loads of 180, 190, or 200 tons. Some improvement is however noticeable since the appearance of Nos. 1941—1950.

From the references I made to particular classes of engines employed on the various Scotch trains which do not stop between Preston and Carlisle, it will be seen that the four-cylinder compounds do a large share of the work. But it is only since June, 1900, that they have become particularly the standard type of engine for the through trains. Three of them are stationed at Carlisle, Nos. 1919, 1944, and 1945: but the rest work up and down from Crewe. It would be absurd to attempt a comparison between these engines and the older 6ft. and 6ft. 6in. types, for it stands to reason that the new engines can take unaided loads which would severely cripple the 'Jumbos,' but relatively the work of the latter is equally good. As to the question of economy, I am quite aware that to do away with double hauling is in itself a great saving of money and men, but it cannot be denied that the four-cylinder compounds, —setting aside the vexed question of saving coal—are extremely expensive in the amount of lubrication they require, and are moreover very heavy on the repairs bill. They do not work their appointed turns with a regularity approaching that of the Jumbos. With the appearance of the latest batch of four-cylinder compounds, Nos. 1941-1950, a vigorous attempt was made to do away with double hauling even on the heaviest trains, notably the 6.45 p.m. from Preston, but the attempt was not successful, for the engines were taxed beyond their power. But it is really too early yet to express any opinion on the merits of the new batch as compared with the original class, 1901 to 1940.

The remaining express trains, not worked by the above three types, fall to the lot of the three-cylinder eight-wheel compounds—usually known as the 'Greater Britain' and 'John Hick' classes. The former are by far the superior engines, and are capable of extremely good work. It was indeed behind an engine of this class—2054 *Queen Empress*—piloted by 380 *Quernmore* (6ft. 6in.) that I had one of the fastest runs I have ever timed on the North Western. The load was 240 tons, and the 62¾ miles from Carnforth to Carlisle were covered in 67 minutes 50 seconds. From the start at Carnforth, Oxenholme was passed in 15 minutes 10 seconds, and Shap Summit in 39 minutes 20 seconds. The descent to Carlisle (31¼ miles) was then run in 28½ minutes, although the engine slackened to 40 m.p.h. at Eden Valley Junction, and occupied 2 minutes 27 seconds for the 1¼ miles from Upperby Bridge to Carlisle platform.

The 'John Hick's' are, I know, far from being favourites with most railway enthusiasts, and certainly their performances are frequently disappointing. I have personally not found them at all superior in uphill running to the 'Greater Britain's': while on the level and downhill sections they are very much inferior. And yet I believe the only difference between the two classes is in the size of the driving wheels, 7ft. on the 'Greater Britain's' and 6ft. 3in. on the 'John Hick's'. It is somewhat hard to get an express run behind a 'John Hick' unpiloted, but until the recent acceleration, one was nearly always on the 10 a.m. from Euston, between Crewe and Carlisle. The best work I have had from an engine of this class was with 1505 *Richard Arkwright*, and is included in the table of runs with the 10.30 a.m. from Wigan to Penrith. The other L.N.W.R. compounds, the 'Dreadnoughts,' 'Experiments' and 'Teutonics', are not in regular work in the Lancaster-Carlisle district: the former appear occasionally, but usually piloting. The 7ft. 6in. singles are naturally great rarities.

I conclude this pamphlet with a few runs, illustrating the work of the different classes. The times are in all cases taken by myself and recorded with the greatest care. I have attempted to select runs free from checks, chiefly because the allowance made for delay by signals is rather an arbitrary one. A clear run is more satisfactory, and gives rise to less dispute as to the merits of the engines. Also I have endeavoured to select unpiloted runs, or at any rate, those where pilot and train engines are both of the same class.

From 9th September, 1901, by the publication of a special notice for the Lancaster-Carlisle Division, the whole of the up and down Scotch trains were re-timed between Preston and Carlisle: more time in every case being allowed up the banks, while the time allowed for the descents was correspondingly shortened. My remarks therefore as to the impossible booked times must be taken to refer to the old arrangements only: for since 9th September, there is not so much excuse for trains not running to schedule from point to point. That the old state of things was unsatisfactory, is, I think, now amply proved.

R. E. CHARLEWOOD,

11th October, 1901.

10.30 a.m., WIGAN TO PENRITH.

ENGINE				1522, *Pitt*, (6ft. 6in.).			1505, *Richard Arkwright*, (a 'John Hick').			1947, *Australia*, (newest class four-cylinder compound).		
LOAD				12½, 175 tons.			13½, 190 tons.			13½, 185 tons.		
WEATHER				Fine.			Fine.			Rough & Windy.		
Miles.			Booked Times.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.
	Wigan	dep.	10.30	10	30	0	10	30	0	10	30	0
5¾	Standish	pass	10.35		36	10		36	3		35	38
9⅝	Euxton Junction	„	10.44		43	0		*43	15		42	36
15	Preston	„	10.50		48	45		*51	0		49	0
16⅝	Oxheys	„	10.53		51	0		54	28		52	0
24½	Garstang	„		11	0	34	11	4	5	11	1	28
36	Lancaster	„	11.13		12	8		16	43		14	4
42¼	Carnforth	„	11.20		18	5		23	15		20	29
49⅓	Milnthorpe	„			25	48		31	35		28	18
55	Oxenholme	„	11.35		32	59		38	55		35	17
62¼	Grayrigg	„	11.44		46	34		50	3		45	50
		arr.			54	45						
68⅛	Tebay	dep.	11.51		56	55		56	35		52	36
		arr.		12	8	5						
73¾	Shap Summit	dep.	12.0		9	40	12	6	0	12	3	35
83	Clifton	pass			19	23		15	27		12	51
86⅛	Eamont Junction	„			22	6		18	20		15	50
87¼	Penrith	arr.	12.15		23	48		20	10		17	30
NOTES :—				Stops at Tebay & Shap Summit to attach and detach bank engine.			Loss by Sigs.: Euxton Junct., 30 secs. Preston 1 m. 30 s.					

1.55 p.m. PRESTON TO CARLISLE.

ENGINE				794, *Woodlark*, (6ft.) 1168, *Cuckoo*, (6ft.)	731, *Croxteth*, (6ft.) 732, *Hecla*, (6ft)	764, *Shap*, (6ft.) 401, *Zeno*, (6ft.)	832, *Sanspareil*, (6ft.) 1937, *Superb*, (four-cyl. com.)	1943, *Queen Alexandra*, (Latest type of four-cylinder compound.)
LOAD				15½, 225 tons.	16, 240 tons.	13, 185 tons.	16, 240 tons.	17, 245 tons.
WEATHER				Fine.	Fine.	Fine & Windy.	Fine.	Fine.
Miles.			Booked Times.	Hrs. Min. Sec.	Hrs. Min. Sec.	Hrs. Min. Sec.	Hrs. Min. Sec.	Hrs. Min. Sec.
	...Preston	dep.	1.55	1 57 45	2 0 50	1 57 5	2 1 40	2 2 45
1⅜	...Oxheys	pass	1.58	2 1 14	3 53	2 0 39	5 0	6 30
9½	...Garstang	,,		9 51	12 16	8 59	14 9	15 58
15¼	...Bay Horse	,,		15 23	17 33	14 28	19 54	22 18
21	...Lancaster	,,	2.18	20 58	22 52	19 58	25 53	28 31
27¼	...Carnforth	,,	2.25	26 43	28 22	25 28	31 45	34 36
34½	...Milnthorpe.........	,,		33 43	35 30	32 30	39 21	42 55
40	...Oxenholme.........	,,	2.39	39 40	41 57	38 46	45 49	50 35
47¼	...Grayrigg............	,,	2.48	49 50	52 13	48 45	56 5	3 3 15
53⅛	...Tebay	,,	2.55	55 53	58 8	54 32	3 2 23	9 55
58¾	...Shap Summit......	,,	3.3	3 4 20	3 6 45	3 3 6	11 8	20 15
68	...Clifton...............	,,		13 6	15 17	11 56	20 12	29 11
72¼	...Penrith	,,	3.17	17 11	18 59	16 1	24 8	32 51
82¾	...Southwaite.........	,,		27 40	28 58	26 25	34 22	42 28
88¾	...Upperby Bridge .	,,	3.36	34 11	*35 4	33 25	39 53	47 29
90	...Carlisle	arr.	3.38	36 45	37 35	36 20	42 15	49 20
	NOTES :—				Loss by Sigs., Upperby Bridge, 45 sec.			

Note the extremely smart times from Preston to Shap Summit, especially in the second and third of the above runs. The last run is the best piece of work I have timed behind the new engines unpiloted.

1.15 p.m. CREWE TO CARLISLE.

ENGINE				1521 *Gladstone*,			787 *Clarendon*,		
LOAD				(6ft. 6in.).			1193 *Joshua Radcliffe*, (both 6ft. 6in.).		
WEATHER				9, 140 tons. Fine.			17½, 270 tons Very Windy.		
Miles.			Booked Times.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.
	Crewe	dep.	1.15	1	11	50	1	20	0
7½	Winsford	pass	1.25		21	28		30	21
16¼	Weaver Junction	,,	1.33		29	35		38	50
24⅛	Warrington	,,	1.42		36	40		46	20
36	Wigan	,,	1.55		*50	8	2	0	51
41¾	Standish	,,	1.59		56	50		6	50
45⅝	Euxton Junction	,,	2.7	2	3	28		13	54
51	Preston	,,	2.13		10	30		20	30
52⅜	Oxheys	,,	2.16		13	51		24	4
60½	Garstang	,,			22	23		33	20
66¼	Bay Horse	,,			28	7		*40	15
72	Lancaster	,,	2.36		33	42		47	44
78¼	Carnforth	,,	2.43		39	27		54	12
85½	Milnthorpe	,,			46	56	3	2	54
91	Oxenholme	,,	2.58		53	18		10	30
98¼	Grayrigg	,,	3.8	3	3	30		22	7
104⅛	Tebay	,,	3.15		9	44		29	2
109¾	Shap Summit	,,	3.25		19	28		39	50
119	Clifton	,,			28	34		48	33
123¼	Penrith	,,	3.30		33	0		52	12
132¾	Southwaite	,,			42	12	4	1	42
139¾	Upperby Bridge	,,	3.59		*48	25		6	30
141	Carlisle	arr.	4.1		53	20		8	25

NOTES :—

(Edinburgh portion, 5 m. in advance of ordinary times). Loss by Sigs.: Wigan South, 1½ m. Upperby Bridge, 3½ min.

Relaying slack at Bay Horse, loss 1½ min.

Note how badly time was lost up the banks.

6.30 p.m. PRESTON TO CARLISLE.

ENGINE				883 *Phantom* 787 *Clarendon* (two 6ft. 6in.)			883 *Phantom* 1484 *Telford* (two 6ft. 6in.)			1484 *Telford* 883 *Phantom* (two 6ft. 6in.)		
LOAD				17½, 260 tons.			19½, 290 tons.			16½, 245 tons.		
WEATHER				Fine.			Wet.			Fine.		
Miles			Booked Times	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.
	Preston	dep.	6.30	6	31	55	6	36	0	6	32	50
1⅜	Oxheys	pass	6.33		35	40		39	42		36	29
9½	Garstang	,,			44	50		49	18		45	12
15¼	Bay Horse	,,			50	14		54	59		50	39
21	Lancaster	,,	6.53		55	38	7	0	32		56	2
27¼	Carnforth	,,	7.0	7	1	25		6	18	7	1	41
34½	Milnthorpe	,,			8	52		14	5		8	58
40	Oxenholme	,,	7.15		15	32		20	50		15	26
47¼	Grayrigg	,,	7.24		27	18		31	55		26	42
53⅛	Tebay	,,	7.31		33	41		38	3		33	12
58¾	Shap Summit	,,	7.40		43	23		48	22		43	18
68	Clifton	,,			52	21		57	28		52	58
72¼	Penrith	,,	7.55		56	3	8	1	50		56	49
82¾	Southwaite	,,		8	6	50		11	27	8	7	12
88¾	Upperby Bridge	,,	8.14		12	24		16	47		12	52
90	Carlisle	arr.	8.16		14	40		18	55		15	25

Note that in each of the above runs, the descent from Shap Summit to Carlisle was run very gently, and the arrival could have been 2 or 3 minutes earlier if necessary.

12.40 p.m. CARLISLE TO PRESTON.

ENGINE				2051, *George Findlay.* (3 cyl. compound)	883, *Phantom.* (6ft. 6in.)	1168, *Cuckoo,* 758, *Hardman.* both 6ft.: 1168 detached at Summit.	1669, *Ilion.* (6ft. 6in.)
LOAD				9½, 130 tons.	9½, 135 tons.	11, 150 tons.	105, 135 tons.
WEATHER				Fine.	Fine.	Fine & Windy.	Wet & Windy.
Miles.			**Booked Times.**	**Hrs. Min. Sec.**	**Hrs. Min. Sec.**	**Hrs. Min. Sec.**	**Hrs. Min. Sec.**
	Carlisle	dep.	12.40	12 41 50	12 40 20	12 48 25	1 1 40
1¼	Upperby Bridge	pass		45 14	43 36	51 29	5 9
7¼	Southwaite	”		54 9	*53 0	59 8	16 1
17¾	Penrith	”	12.59	1 6 15	1 6 33	1 10 0	30 25
22	Clifton	”	1.4	10 55	11 6	14 5	35 35
29¼	Shap	”		20 53	21 21	22 38	47 51
						arr. 25 0	
31¼	Shap Summit	”	1.16	23 34	24 3	dep. 26 55	51 40
36⅛	Tebay	”	1.23	28 29	28 51	33 13	56 53
42¾	Grayrigg	”		34 5	34 52	39 28	2 2 38
50	Oxenholme	”	1.38	40 24	41 10	46 10	9 0
55½	Milnthorpe	”		44 54	45 53	51 4	13 27
62¾	Carnforth	”	1.52	51 35	52 20	58 23	19 21
69	Lancaster	”	1.59	57 40	57 53	2 5 13	24 51
74¾	Bay Horse	”		2 4 30	2 4 6	12 3	30 53
80½	Garstang	”		*12 50	9 23	17 28	36 15
88⅝	Oxheys	”	2.19	21 45	17 29	*25 30	*44 4
90	Preston	arr.	2.22	*26 15	20 45	29 30	47 55
NOTES:—				Loss by Sigs.: Scorton 2 min., outside Preston 30 secs.	Relaying slack at Southwaite, loss 1 min.	Dead slow Sigs. outside Preston, loss 30 secs.	1 min. loss by Sigs. at Oxheys.

1.28 p.m. PENRITH TO PRESTON.

ENGINE				512, *Lasonby,* (6ft. 6in.)	1920, *Flying Fox,* (four-cyl. com.)	1909, *Crusader,* (four-cyl. com.)	124, *Marquis Douro,* 6ft. to Shap Summit & 1915, *Implacable,* (four-cyl. com.)
LOAD				10½, 160 tons.	9½, 155 tons.	10½, 155 tons.	16½, 260 tons.
WEATHER				Fine. Frosty.	Fine.	Wind & Snow.	Fine.
Miles.			Booked Times.	Hrs. Min. Sec.	Hrs. Min. Sec.	Hrs. Min. Sec.	Hrs. Min. Sec.
	..Penrith	dep.	1.28	1 29 0	1 29 10	1 30 0	1 32 40
1⅛	..Eamont Junction	pass		31 41	31 46	32 27	35 2
4¼	..Clifton	”		36 20	35 53	*37 35	39 11
11½	..Shap	”		49 5	46 3	48 17	49 10
							arr. 52 0
13½	..Shap Summit	”	1.44	52 29	48 42	51 0	dep. 53 30
19⅛	..Tebay	”	1.50	58 0	53 32	56 6	2 0 10
25	..Grayrigg	”		2 3 12	59 12	2 2 15	5 56
32¼	..Oxenholme	”	2.4	9 20	2 5 21	8 53	12 33
37¾	..Milnthorpe	”			9 54	13 39	17 18
45	..Carnforth	”	2.17	19 20	16 16	20 15	23 47
51¼	..Lancaster	”	2.24	24 34	22 27	26 5	29 50
57	..Bay Horse	”		*	28 56	32 16	36 49
62¾	..Garstang	”		36 40	34 27	37 49	42 47
70⅞	..Oxheys	”	2.44	45 10	42 34	46 1	51 29
71¼	..Mile Post ‘1’	”		*	43 24	46 41	52 10
72¼	..Preston	arr.	2.47	50 25	46 30	49 35	54 45
NOTES:—				Loss by Sigs.: Bay Horse 45 sec. Garstang 1 min. 30 sec., Preston, (outside station) 2 min. thus leaving a gain to the eng. of 1 min. 50 sec.		1 min. lost by relaying slack at Eden Valley Junc.	Stop at Summit to detach 124.

4.49 p.m. PENRITH TO PRESTON.

ENGINE				794, *Woodlark*, (6ft.) 1214, *Premier*, (6ft. 6in.)			1211, *John Ramsbottom*, (6ft. 6in.) 1669, *Ilion*, (6ft. 6in.)			731, *Croxteth*, (6ft.) 1489, *Brindley*, (6ft. 6in.)		
LOAD				18, 275 tons.			14, 180 tons.			19½, 290 tons.		
WEATHER				Fine.			Fine.			Heavy Rain.		
Miles.			Booked Times.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.	Hrs.	Min.	Sec.
	Penrith	dep.	4.49	4	53	0	4	53	45	4	51	0
1⅛	Eamont Junction	pass			55	56		56	8		53	43
4¼	Clifton	”	4.55	5	0	23	5	0	10		58	11
11⅓	Shap	”			12	9		10	10	5	10	3
13½	Shap Summit	”	5.7		15	9		12	45		13	0
19⅛	Tebay	”	5.14		20	7		17	42		18	19
25	Grayrigg	”			26	32		23	44		24	10
32¼	Oxenholme	”	5.29		32	40		30	15		30	35
37¾	Milnthorpe	”			37	7		35	8		35	11
45	Carnforth	”	5.43		43	9		41	57		41	47
51¼	Lancaster	”	5.51		48	40		48	5		46	43
57	Bay Horse	”			55	2		54	43		52	53
62¾	Garstang	”	6.3	6	0	28	6	0	9		58	8
70⅞	Oxheys	”	6.12		8	10		*8	28	*6	5	55
72¼	Preston	arr.	6.15		11	35		13	30		11	20
							First Portion: a very light load for two engines. Loss by Sigs. at Oxheys 1 min.			Loss by Sigs. at Oxheys, 2¼ min.		

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